Electronic Version

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Method for Sizing Production Lot Starts within a Linear System Programming Environment

Abstract

Allocating limited manufacturing resources to achieve a feasible production plan that is consistent with customer demand is a difficult and common problem faced in many manufacturing industries. For large-scale multi-stage manufacturing systems, existing methods are typically based either on allocating limited resources sequentially, according to a priority ranked list of production starts, or on linear programming based models. The output of such planning models is a production plan which specifies the quantity of each part to produce at each plant, using resources available to the enterprise. Typically there are lot-sizing rules defining the permissible production start quantities. The invention disclosed herein is a method for applying these rules to the lot-sizing of production starts within a linear program. It employs advanced heuristics that consider both established operational objectives (e.g. customer service, short lead times, low inventory, and prioritized allocation of supply and capacity) and lot-size

rules to efficiently compute a feasible production plan for the division.